

What is claimed is:

1 1. A security system, comprising:

2 a multichannel image processor selectively receiving image signals transmitted through a
3 plurality of input channels and outputting the image signals; and

4 a computer being connected with said multichannel image processor through a
5 communication interface, said computer having a multichannel image driver, said computer inputting
6 the image signals outputted from said multichannel image processor;

7 the multichannel image driver controlling a selection of at least one of the input channels in
8 accordance with a selected set-up mode, supplying a main image display window displaying the
9 inputted image signals to a main frame of a display device, supplying at least one manipulation key
10 window displaying keys to the main frame of the display device, processing in accordance with the
11 selected set-up mode, performing at least one selected from among displaying the inputted image
12 signals through the display device in accordance with the selected set-up mode and recording the
13 inputted image signals in a memory in accordance with the selected set-up mode, the displayed keys
14 being for selecting the selected set-up mode and other modes, the main image display window and
15 the at least one manipulation key window being integrally displayed on the main frame of the display
16 device.

1 2. The security system of claim 1, said multichannel image processor comprising:

2 a plurality of memories storing signals input through the plurality of input channels,

respectively;

a memory controller selectively outputting the signals stored in the plurality of memories;

a coding unit coding the signals output from the plurality of memories and transmitting the coded signals to said computer; and

a main controller controlling said memory controller in accordance with a control signal transmitted from said computer.

3. The security system of claim 2, said multichannel image processor further comprising:

a plurality of analog-to-digital converters being disposed respectively between each one of the plurality of input channels and each one of the plurality of memories, converting the input signals into digital signals.

4. The security system of claim 3, said multichannel image processor further comprising a multiplexer multiplexing the signals input through the plurality of input channels and outputting the multiplexed signals via a terminal for an external displayer.

5. The security system of claim 3, said multichannel image processor further comprising an RS-232 interface module being connected with said main controller and communicating data with said computer.

6. The security system of claim 5, said multichannel image processor further comprising an

RS-485 interface module being connected with said main controller and communicating data with apparatuses connected to the plurality of input channels.

7. The security system of claim 5, said multichannel image processor further comprising a wireless transmitter being connected with said main controller, wirelessly transmitting and receiving data to and from apparatuses connected to the plurality of input channels.

8. The security system of claim 2, further comprising an alarm sensor sensing an abnormality of an object to be watched, said main controller transmitting received information of an abnormality signal to the multichannel image driver when the abnormality signal is transmitted, and operating an alarm channel selection mode corresponding to the abnormality signal under a control of the multichannel image driver.

9. The security system of claim 8, the plurality of input channels receiving the image signals from a plurality of cameras, the abnormality signal corresponding to at least one selected camera selected from among the plurality of cameras, the at least one selected camera being in a region of said alarm sensor.

10. The security system of claim 9, the multichannel image driver recording and displaying image signals received from the at least one selected camera for a predetermined time when the abnormality signal is transmitted.

1 11. The security system of claim 1, having at least one photographing device connected with
2 the plurality of input channels, the at least one photographing device having a photograph direction
3 changed in accordance with a control signal;

4 the multichannel image driver having basic photograph keys disposed on the manipulation
5 key window to manipulate functions supported by the at least one photographing device, and
6 controlling the at least one photographing device through said multichannel image processor in
7 accordance with the manipulation of the basic photograph keys.

8 12. The security system of claim 11, the basic photograph keys including a focus adjust key,
9 a zoom in/out adjust key, and a photograph direction manipulation key.

10 13. The security system of claim 12, the photograph direction manipulation key being
11 displayed as a mark having a predetermined shape on an initial point in a direction display window
12 displaying direction guide information guiding a photograph adjust direction when the photograph
13 direction manipulation key is not selected; and

14 the multichannel image driver displaying the mark after moving the mark in the direction
15 display window in accordance with a dragging direction of a computer mouse having a button
16 pressed to select the mark, outputting a rotation control signal through said multichannel image
17 processor to the at least one photographing device to rotate the at least one photographing device
18 according to the moving of the mark, and showing the mark returning to the initial point when the
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pressed computer mouse button is released.

14. The security system of claim 11, the multichannel image driver having a next key, the next key being selected to display a succeeding frame and at least one detailed photograph key for adjusting and setting up a detailed function including a photographing pattern of the at least one photographing device, the at least one detailed photograph key being displayed in the at least one manipulation key window;

the multichannel image driver loading and displaying the succeeding frame on the display device and processing a function corresponding to a selected key from among the at least one detailed photograph key, when the next key is selected.

15. The security system of claim 14, the at least one detailed photograph key including menu keys for selecting and setting up an identifier for the at least one photographing device, a white balance, a shutter speed, and motion detection.

16. The security system of claim 14, the at least one detailed photograph key including a preset key for selecting a preset mode, the at least one photographing device operating in the preset mode in accordance with preset zoom set-up information for a region corresponding to an ordered number selected from among ordered numbers of the preset zoom set-up information, the preset zoom set-up information being classified selectively by assigning respective ordered numbers and corresponding zoom set-up information to respective detailed regions according to an azimuth angle,

the at least one detailed photograph key including a manipulation pattern operation key for operating the at least one photographing device in accordance with stored information about manipulation of the photograph direction manipulation key, the at least one detailed photograph key including a scan key for operating the at least one photographing device to sequentially photograph in accordance with the ordered numbers of the preset zoom set-up information.

17. The security system of claim 16, the at least one detailed photograph key including an auto pan key for driving a pan within a set-up pan angle, and including a block set-up key for selecting a region viewed by the at least one photographic device, the region being selected by appointing a block for the region in the image display window.

18. The security system of claim 17, movement being detected in the selected region.

19. The security system of claim 1, including a memory capacity display window disposed at a side of the main frame to display a memory capacity, the multichannel image driver calculating remaining memory capacity of said computer and displaying the remaining memory capacity through the memory capacity display window.

20. The security system of claim 1, the manipulation key window including a system set-up key, the multichannel image driver loading a set-up module window supporting the set-up mode when the system set-up key is selected, the set-up module window including a window for selecting

4 a directory for storing the received image signals in a memory of said computer and including an
5 alarm capacity selection window for selecting a remaining capacity alarm target value to generate
6 an alarm signal when a remaining memory capacity of the memory reaches the selected value.

1 21. The security system of claim 1, the main frame including a separation key, the
2 separation key being selected to load a separated image window displaying a transmitted image
3 separated from the main image display window, the multichannel image driver displaying the
4 separated image window by loading a separated image window when the separation key is selected,
5 the multichannel image driver adjusting a size of the separated image window and the image
6 corresponding to the transmitted image when a signal is received from an input device to manipulate
7 the size of the separated image window.

1 22. The security system of claim 1, said computer including the multichannel image
2 driver and a windows-based operating system supporting multi-tasking for operating an application
3 program stored in a memory, the operation of the multichannel image driver being supported by the
4 windows-based operating system.

1 23. A multichannel image processor, comprising:
2 a plurality of input channels receiving image signals transmitted from a plurality of cameras;
3 a plurality of memories storing the image signals received by said plurality of input channels;
4 a memory controller selectively outputting the image signals stored in said plurality of

5 memories, in accordance with a control signal;

6 a coding unit coding signals output from said plurality of memories and transmitting the
7 coded signals through an image output terminal for a computer; and

8 a main controller controlling said memory controller in accordance with the control signal,
9 the control signal being transmitted from the computer through a computer data communication
10 terminal.

24. The multichannel image processor of claim 23, further comprising:

1 a plurality of analog-to-digital converters respectively disposed between each one of said
2 plurality of input channels and each one of said plurality of memories to convert the received image
3 signals to digital signals.
4

25. The multichannel image processor of claim 24, further comprising:

1 a multiplexer multiplexing and outputting the image signals received by said plurality of
2 input channels through a terminal for an external display device, the terminal for the external display
3 device being distinguishable from the computer data communication terminal.
4

26. The multichannel image processor of claim 24, further comprising:

1 an RS-232 interface module being disposed between the computer data communication
2 terminal and said main controller to communicate data with the computer.
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1 27. The multichannel image processor of claim 26, further comprising:

2 an RS-485 interface module being connected between said main controller and a terminal for
3 camera communication to communicate data with at least one of the plurality of cameras connected
4 with said plurality of input channels.

1 28. The multichannel image processor of claim 26, further comprising:

2 a wireless transmitter being connected with said main controller to wirelessly communicate
3 data at least one of the plurality of cameras connected with said plurality of input channels.

1 29. The multichannel image processor of claim 24, further comprising:

2 an alarm sensor sensing an abnormality of a selected object, the object being selected to be
3 watched;

4 said main controller transmitting first abnormality signal data through the computer data
5 communication terminal and said main controller operating an alarm channel selection mode
6 corresponding to a generation of the abnormality signal in accordance with a reply control signal
7 received through the computer data communication terminal in response to the first abnormality
8 signal data, when the abnormality signal is transmitted from said alarm sensor.

1 30. An apparatus installed in a computer, comprising:

2 a receiver being disposed in the computer to receive signals transmitted to the computer from
3 an external device; and

4 a multichannel image driver outputting a channel selection signal to the external device
5 through a set-up port according to a set-up mode, displaying the signals input through said receiver
6 on a display device, recording the signals input through said receiver in a memory in accordance with
7 the set-up mode, displaying a main image display window, the main image display window
8 displaying together on a main frame the signals input through said receiver and a manipulation key
9 window displaying keys for selecting a mode, and processing in accordance with a selected key, the
10 selected key being one of the keys displayed by the manipulation key window.

31. A computer storage medium having stored thereon a set of instructions implementing
a method, said set of instructions comprising one or more instructions for:

selectively receiving image signals transmitted through a plurality of input channels and
outputting the image signals; and

controlling a selection of at least one of the input channels in accordance with a selected set-
up mode, displaying the outputted image signals in a main image display window of a display device
of a computer in accordance with the selected set-up mode, displaying signals stored in a memory,
supplying at least one manipulation key window displaying keys for selecting the set-up mode and
other modes, controlling said selective receiving of the image signals in accordance with the selected
set-up mode, the main image display window and the manipulation key window being integrally
displayed on a main frame of the display device.

32. The computer storage medium of claim 31, said set of instructions further comprising

one or more instructions for:

transmitting the image signals from at least one photographing device to the plurality of input channels, the at least one photographing device having a photograph direction changed in accordance with a control signal, the keys displayed by the at least one manipulation key window including basic photograph keys for manipulation functions supported by the at least one photographing device; and controlling the at least one photographing device in accordance with the manipulation of the basic photograph keys.

33. The computer storage medium of claim 32, the basic photograph keys including a focus adjust key, a zoom adjust key, and a photograph direction manipulation key.

34. The computer storage medium of claim 33, said set of instructions further comprising one or more instructions for:

displaying the photograph direction manipulation key as a mark having a predetermined shape on an initial point in a direction display window displaying direction guide information guiding a photograph adjust direction when the photograph direction manipulation key is not selected; and

displaying the mark after moving the mark in the direction display window in accordance with a dragging direction of a computer mouse clicked button pressed to select the mark, outputting a rotation control signal to the at least one photographing device to rotate the at least one photographing device according to the moving direction, and showing the mark returning to the

11 initial point when the computer mouse is released.

1 35. The computer storage medium of instructions of claim 32, said set of instructions further
2 comprising one or more instructions for:

3 displaying a next key, the next key being selected to display a succeeding frame and at least
4 one detailed photograph key for adjusting and setting up a detailed function including a
5 photographing pattern of the at least one photographing device, the at least one detailed photograph
6 key being displayed in the at least one manipulation key window, and

7 when the next key is selected, loading and displaying the succeeding frame on the display
8 device and processing a function corresponding to a first detailed key selected from among the at
9 least one detailed photograph key.

10 36. The computer storage medium of claim 35, the at least one detailed photograph key
11 including menu keys for selecting and setting up an identifier for the at least one photographing
12 device, a white balance, a setter speed, and motion detection.

1 37. The computer storage medium of claim 35, the at least one detailed photograph key
2 including a preset key for selecting a preset mode, the at least one photographing device operating
3 in the preset mode in accordance with preset zoom set-up information for a region corresponding to
4 an ordered number selected from among ordered numbers of the preset zoom set-up information, the
5 preset zoom set-up information being classified selectively by assigning respective ordered numbers

6 and corresponding zoom set-up information to respective detailed regions according to an azimuth
7 angle, the at least one detailed photograph key including a manipulation pattern operation key for
8 operating the at least one photographing device in accordance with stored information about
9 manipulation of the photograph direction manipulation key, the at least one detailed photograph key
10 including a scan key for operating the at least one photographing device to sequentially photograph
11 in accordance with the ordered numbers of the preset zoom set-up information.

38. The computer storage medium of claim 37, the at least one detailed photograph key
including an auto pan key for driving a pan within a set-up pan angle, and including a block set-up
key for selecting a region viewed by the at least one photographic device, the region being selected
by appointing a block for the region in the image display window.